IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.	: 10/522,157
Applicant	: Elmar Kibler
Filed	:January 24, 2005
TC/A.U.	: 1616
Examiner	: Courtney Brown
Docket No.	: 3165-116
Customer No.	: 06449
Confirmation No.	: 9202

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

June 18, 2009

Dear Commissioner:

Applicants request review of the final rejection (Office Action of December 19, 2008) in the above-identified patent application. In the Office Action, claims 1, 8, 9, 23 and 26-33 were finally rejected under 35 USC §103(a) as being unpatentable over Sievernich. A request for reconsideration was filed on April 20, 2009. A review of these rejections is requested for the following reasons.

Claims 1, 8, 9, 23 and 26-33 were rejected under 35 USC §103(a) as unpatentable over Sievernich et al. Sievernich et al. discloses a synergistic binary mixture, comprising as component A) 4[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl- benzoyl]-1-methyl-5- hydroxy-1H-pyrazole and as component B) inter alia imidazolinone compounds (in group B2) or triazines (in group B12). Applicants point out that imidazolinones and triazines are alternatives in the binary mixture, not third and/or fourth components of the mixture. As a specific embodiment, Sievernich describes synergistic ternary mixtures, comprising as component A) 4-[2-methyl-3-(4,5-

dihydroisoxazol-3-yl)-4-methylsulfonyl- benzoyl]-1-methyl-5- hydroxy-1 H-pyrazole and as component B) two herbicidal compounds from groups B1 to B16 (page 34, line 43, and claim 25).

Applicants point out that there are several significant differences between Sievernich et. al. and the present invention:

- Sievernich et al. does not teach herbicidal mixtures comprising two imidazolinone compounds. The only specific disclosure of a mixture comprising an imidazolinone compound is in Tables 11 and 12 which disclose as component A) 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl- benzoyl]-1-methyl-6-hydroxy-1H-pyrazole and as component B) an imidazolinone compound, i.e. Imazapyr. Unlike the present invention, Sievernich et al. does not specifically disclose the use of two imidazolinone compounds.
- Specific mixtures with other imidazolinone compounds (shown in tables 13-16) comprise as component A) compound Ia.3, which differs from component A) of the present invention in that it features a chlorine-residue in the R^1 position. Ia.33 (component A) of the present invention features a methyl-residue in the respective position. Thus, tables 13-16 cannot be used to reasonably predict the synergistic effect achieved using the present invention.
- Sievernich et al. discloses ternary mixtures comprising two components B) only in generic terms with no specific examples. Sievernich et al. describes binary mixtures comprising as component B) imidazolinone compounds, indicating mixtures with individual compounds only. There is no suggestion to add a second imidazolinone compound to these synergistic mixtures or that the addition of a second imidazolinone

will lead to a composition with increased synergistic activity.

- No ternary mixtures disclosed by Sievernich (table 76) et al. comprise an imidazolinone compound.
- Sievernich et al. does not suggest or disclose quaternary mixtures at all.

The subject matter of the present invention could be viewed as a selection invention. While Sievernich et al. teach binary mixtures comprising as component A) 4-[2-methy1-3-(4,5- dihydroisoxazol-3-yl)-4-methylsulfonyl- benzoyl]-1-methyl-5-hydroxy-1H-pyrazole and as component B) inter alia an imidazolinone compound, the mixtures according to the present invention comprise four strictly defined individual herbicides. The inventive step of the Sievernich application is substantiated by the unexpected synergistic effect of the binary mixture comprising as component A) 4[2-methyl-3-(4,5-dihyclroisoxazol-3-yl)-4-methylsulfonyl- benzoyl]-1-methyl-5-hydroxy-1H-pyrazole and inter alia as component B) imazapyr (tables 11 and 12). The examiner contends that adding a third and fourth herbicide to a synergistic mixture would be obvious to one skilled in the art with the expectation of obtaining a synergistic mixture with enhanced effectiveness. Synergistic effects are not predictable but depend on the selected compounds or class of compounds. Even a purely additive effect cannot always be predicted based on calculations. Furthermore, the examiner overlooks the fact that the addition of the fourth component in the present invention, the triazine, not only provides for enhanced effectiveness, i.e. an additive effect, but for an additional synergistic effect which could not have been predicted from the disclosure in Sievernich et al. The fact that the effectiveness of an already highly active herbicidal mixture can yet again be

boosted in a more than additive effect is totally unexpected and unpredictable. Applicants point out that the higher the level of control of unwanted vegetation already achieved, the more difficult it is to produce a further improvement by addition of another active ingredient, much less a further synergistic effect.

In the present application, Tables 7 and 8 indicate the herbicidal activity for the individual components A), B) and C) and Tables 10-17 show the synergistic effect of the fourth component on top of the activity of the three other components. This data clearly confirms that the addition of a triazine (fourth component) to a mixture comprising as component A) 4-[2-methyl-3-(4,5-dihydroisoxazol-3-y1)-4- methylsulfonyl- benzoyl]-1-methyl-5-hydroxy-1H-pyrazole and as component B) at least two imidazolinone compounds, results in a synergistic effect. This effect is different and independent from the synergistic effect which is achieved from combining only component A) 4-[2-methyl-3-(4,5- dihydroisoxazol-3-yl-4-methylsulfonyl- benzoyl]-1-methyl-5-hydroxy-1 H-pyrazole and as component B) an imidazolinone compound as disclosed in Sievernich et al. In comparing the synergistic activity of the presently claimed invention, the Colby-value, which stands for the calculated additive effect [%], has to be compared to the observed effect (damage [%]). E is the value which would be expected if the combination of active ingredients produces only an additive effect. This value is compared to the actual result (Damage [%]) to determine if a synergistic effect is produced. If E is less than the Damage [%], then synergy is occurring. Therefore the combination of the individual components produces a synergistic effect. The Colby value is a prediction of the results of combining individual active ingredients which is why there is no Colby value for the

individual components. This data demonstrates that the claimed inventive mixtures result in more than a simply additive effect. These results are unpredictable and non-obvious in view of Sievernich et al. One of skill in the art could not have guessed or known which of the numerous possible combinations from Sievernich would show synergistic activity without detrimental effects. The subject matter of the present invention is a strictly defined quaternary mixture. Applicants contend that a synergistic increase in herbicidal activity could not have been predicted for the present invention in view of Sievernich et al. as synergistic effects in general cannot be predicted.

For the reasons set forth above, Applicants respectfully request review of the final Office Action, and submit that all pending claims are patentable. In the event this paper is not considered to be timely filed, the Applicant respectfully petitions for an appropriate extension of time. Any fee for such an extension together with any additional fees that may be due with respect to this paper, may be charged to Counsel's Deposit Account No. 02-2135.

Respectfully submitted,

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